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ABSTRACT OF THE DISCLOSURE

A weld across a joint is formed between superposed plate workpieces comprising a first plate workpiece made up of one or more plates and a second plate workpiece made up of a single plate having a joint bore formed therein by grasping the superposed plate workpieces between a rotating friction agitation welding tool and a back-up tool, rotating and advancing the friction agitation welding tool toward the back-up tool in an axis of welding to force the friction agitation welding tool to penetrate into the first plate workpiece while urging the friction agitation welding tool and the first plate workpiece together whereby generating frictional heat to plasticize workpiece material around the friction agitation welding tool and cramming a plasticized workpiece material into the joint bore of the second plate workpiece and allowing the plasticized workpiece material to solidify.